

NON-INTRUSIVE INSPECTION IMPULSE RADAR ANTENNA

Abstract

An apparatus and method for detecting objects buried beneath the surface of a medium. A plurality of wide-bandwidth antennas, coupled to form an array, is drawn across the surface. Each antenna radiates a plurality of pulses of electromagnetic radiation at periodic intervals of time and receives the plurality of pulses after their interaction with the medium. The return pulses are sampled by a sampling circuit disposed at the feed of each antenna so as to create an equivalent-time pulse signal, and a self-signature of each antenna is subtracted from the equivalent-time pulse signal so as to detect features of objects buried beneath the surface of the medium. A pulse former is provided at the feedpoint of the receiving antenna.

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